1974 MICHIGAN FOREST PEST CONDITIONS

LOWER PENINSULA

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INTRODUCTION

This is a summary of 1974 forest pest conditions for the Lower Peninsula only. A separate report has been prepared for the Upper Peninsula.

Information for this summary was obtained primarily from three sources: 1) personal observations and surveys conducted by myself; 2) monthly pest reports submitted by DNR Area Foresters; 3) contacts with pest specialists from other Michigan agencies.

The purpose of this report is to indicate general trends in pest populations rather than attempt to supply exact locations and specific numerical data.

INSECTS

JACK PINE BUDWORM (Choristoneura pinus)

This insect was by far the most damaging forest pest in the Lower Peninsula during 1974. We experienced what appears to be the most severe widespread outbreak of this insect since the mid-1960's. Twelve counties sustained moderate to heavy defoliation of jack pine. Some of the hardest hit areas were in Crawford, Oscoda, Alcona, Montmorency, and Otsego counties. Some mortality will occur, especially in mature and overmature stands. Potential mortality in Oscoda County alone was estimated at 20,000 cords. Salvage operations will be necessary in some areas.

SPRUCE BUDWORM (Choristoneura fumiferana)

Outbreaks were detected in mature and overmature balsam fir and white spruce stands in Otsego, Alpena, Roscommon, and Presque Isle counties. Some mortality and dieback of balsam fir has occurred. Lack of suitable markets has made salvage difficult in some areas.

During the period of July 14-16 we experienced a heavy inundation of spruce budworm moths over the central eastern part of the Lower Peninsula. It was speculated that the moths were blown in from Minnesota or Canada by a strong storm that weekend. Oviposition and egg hatch were observed on ornamental white and blue spruce and on spruce windbreaks. It won't be known until next year exactly what impact this will have on southern Michigan.

ARBORVITAE LEAF MINER (Argyresthia thuiella)

Large areas of northern white cedar in Grand Traverse and Benzie counties have suffered severe browning and defoliation due to this insect. Unusually mild winters the last two years may have contributed to the population build up. Defoliation approaching 50 to 75 per cent has been observed. It appears that most trees will survive if the outbreak subsides.

FOREST TENT CATERPILLAR (Malacosoma disstria)

Isolated infestations occurred in Otsego, Montmorency, and Alpena counties. Defoliation varied in intensity from about 25 to 80 per cent, with an entire section in Otsego County nearly completely defoliated.

AN OAK LEAFROLLER (Archips semiferanus)

This insect seems to be on the rise in the northeastern portion of the Lower Peninsula. Significant defoliation was reported in Ogemaw, Montmorency, Alpena, and Cheboygan counties. This pest was responsible for serious mortality of red, black and northern pin oaks during the late 1960's.

OAKWORM COMPLEX

Populations of both the REDHUMPED OAKWORM (Symmerista canicosta) and the VARIABLE OAK LEAF CATERPILLAR (Heterocampa manteo) have dropped markedly this year due to very heavy egg parasitism. No serious defoliation was observed.

A BLACK WALNUT SHOOT MOTH (Acrobasis sp.)

A serious infestation of a shoot moth on black walnut was discovered throughout the southern Lower Peninsula. Damage consists of tunneling down the center of new shoots. The larva also rolls or ties the leaves together while encased in a black silken tube. Feeding by this insect causes a wilting and blackening of new shoots similar to frost damage. The end result is a badly forked and worthless tree.

This pest is currently being investigated through a joint effort by the Michigan Department of Natural Resources and the U. S. Forest Service, North Central Forest Experiment Station. It is possible that more than one species may be involved.

GYPSY MOTH (Porthetria dispar)

During 1974 a combined effort was undertaken by the Michigan Department of Agriculture, Plant Industry Division and the U. S. Department of Agriculture, Animal and Plant Health Inspection Service to eradicate the gypsy moth in Michigan. A total of 55,000 acres were treated in Isabella, Mecosta, Montcalm, and Gratiot counties. The three basic treatments applied were 1) aerial application of Sevin 4 Oil; 2) aerial application of a male confusant; Disparlure; 3) suppression trapping; which consisted of 5,700 traps per square mile. Some areas received a combination of two of these treatments.

In addition to the eradication program, a statewide detection trap survey was conducted. Next year's control program will be formulated after the detection survey is evaluated.

OTHER INSECTS

During 1974 scattered outbreaks of the OAK SKELETONIZER (Bucculatrix ainseliella) were reported in several areas of the Lower Peninsula.

Populations of the EASTERN TENT CATERPILLER (Malacosoma americanum) were exceptionally high throughout most of the state this past year.

Shoot borers that appeared to be on the increase are the WHITE PINE WEEVIL (Pissodes strobi) on white and jack pine and the EASTERN PINE SHOOTBORER (Eucosma gloriola) on red and jack pine. EUROPEAN PINE SHOOT MOTH (Rhyacionia buolinana) numbers seemed to be up in Shiawassee County and in some other areas of the southern Lower Peninsula.

Mortality of wild and choke cherries has occurred in Lake, Newaygo, and Missaukee counties due to repeated defoliation by the CHERRY SCALLOP SHELL MOTH (Calocalpe undulata). This is significant from a wildlife standpoint.

SARATOGA SPITTLEBUG (Aphrophora saratogensis) populations increased significantly during 1974 while EUROPEAN PINE SAWFLY (Neodiprion sertifer) numbers dropped to quite low levels.

A heavy infestation of REDHEADED PINE SAWFLY (Neodiprion lecontei) was discovered in a ten acre jack pine plantation in Kalkaska County. Approximately 25 per cent of the stand was lost before chemical control could be applied.

The PINE ROOT COLLAR WEEVIL (Hylobius radicis) appears to be increasing in severity in many areas, especially the northwestern part of the Lower Peninsula. Losses are severe in many Scotch pine and mixed red and jack pine plantations.

ELM LEAF BEETLE (Pyrrhalta luteola) populations were very high in southern Michigan and caused severe browning of elms. Chinese elms in particular were hard hit.

The FALL WEBWORM (Hyphantria cunea) remained at about the same level as last year with black walnut being one of the preferred hosts.

Scattered defoliation of white oaks by the POSTOAK LOCUST (Dendrotettix quercus) was reported throughout several square miles in Lake County.

DISEASES

SCLERODERRIS CANKER (Scleroderris lagerbergii)

Positive identification was made from red and jack pine samples taken from plantations in Otsego and Antrim counties. Damage consisted of "flagging" on the lower branches with some mortality of badly suppressed trees. This disease has been present for many years and is not expected to be a serious problem in the Lower Peninsula.

OAK WILT (Ceratocystis fagacearum)

In general, incidence of this disease was down from last year even though several new infections were detected. One of the largest new locations was discovered in Missaukee County. Other new locations were detected in Grand Traverse and Lake counties.

ASPEN SHOOT BLIGHT (Venturia sp.)

Scattered brown leaves and blackened, wilted shoots were especially prevalent during 1974. This disease could be found in nearly all of the aspen types throughout the Lower Peninsula.

HYPOXYLON CANKER (Hypoxylon mammatum)

On the basis of casual observations it appeared that mortality of aspen due to this canker was up during 1974. Losses were especially noticeable in sapling and pole size stands.

DUTCH ELM DISEASE (Certocystis ulmi)

It was reported that losses were extremely heavy in the remaining areas of elm in the Lower Peninsula. Weather conditions favorable for beetle activity has been suggested as a possible reason for such high mortality this year. The drought experienced in many areas this summer may also be involved.

LOPHODERMIUM NEEDLE CAST (Lophodermium pinastri)

This disease continued to be a serious problem in nurseries and Christmas tree plantations. Good control has been obtained with maneb and Daconil when proper timing and thorough coverage were achieved.

PRUNING DISEASE (Cenangium ferruginosum)

There was a sharp decline in reported incidences as compared to 1974. This fungus was associated with a wide occurrence of a twig blight on Scotch pine in southern Michigan last year.

LEAF SCORCH

This malady was very common this year due to the very dry summer. Maples were among the hardest hit species. Scorch was especially prominent in urban areas and along rural roads and caused many inquiries from concerned persons.

WEATHER

Weather conditions for 1974 consisted of a very wet spring followed by an extremely dry summer in many areas, especially in the southern Lower Peninsula.

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1974 MICHIGAN FOREST PEST CONDITIONS

UPPER PENINSULA

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INSECTS

SPRUCE BUDWORM (Choristoneura fumiferana)

This pest was the most serious insect problem in the Upper Peninsula during 1974. Defoliation of balsam fir and white spruce was particularly heavy in the eastern portion of the Upper Peninsula. Those counties most severely defoliated were: Chippewa, Luce, Mackinac and Marquette. Approximately 73,000 acres suffered moderate to heavy defoliation. Top dieback and mortality of balsam fir has occurred over much of this area. Unfortunately much of this spruce-fir type occurs on swampy terrain where it will be difficult or impossible to salvage.

Heavy moth flights were observed in parts of Luce and Mackinac counties indicating the probable continuation and spread of current outbreaks. These areas will be observed next year for new trouble spots.

JACK PINE BUDWORM (Choristoneura pinus)

In contrast to the Lower Peninsula, populations of this insect remained at endemic levels in the Upper Peninsula. There were no reports of serious defoliation by this pest during the past summer.

JACK PINE SAWFLY (Neodiprion pratti banksianae)

After the low population experienced last year -- due in part to our cold, wet spring -- sawfly populations were up again this season. However, damage was nowhere near the levels of two years ago. The heaviest populations occur in and around the town of Seney, Schoolcraft County. Here heavy defoliation occurred to trees of all ages; however, as has happened in the past, red pine was not defoliated.

The infestation continues in North Luce County. Elsewhere populations were up from a year ago, but down from past years. Local outbreaks of high populations occurred in T49N, R10 and 11W. Here the sawfly continues to cause mortality of over-mature jack pine. Commercial harvest and salvage continues in the area.

Trees in North Luce County, heavily attacked in past years, continue to die. Some of the mortality is coupled with light defoliation this season. Water tables are also up from normal levels this year, no doubt due to the past two wet years. The higher water tables in combination with the weakened trees has probably combined to cause additional mortality.

LARGE ASPEN TORTRIX (Choristoneura conflictana)

Populations continue to decline throughout the region from the high of two years ago. The tortrix numbers are now nearing endemic levels. Small areas of moderate defoliation occur along with isolated patches of heavy defoliation. A larger area of moderate defoliation was in Section 6, T49N, R12W of Luce County. About 20 acres are involved. Heavy defoliation of trembling aspen was present in Iron County between Crystal Falls and Iron River. These patches ranged in size from one to five acres. Moderate defoliation of aspen has occurred in the north half of Dickinson County.

Surveys made of the Luce County population revealed a large percent of pupae died before adult emergence. The mortality was caused by a disease, but no determination was made of the pathogen involved.

BIRCH LEAF MINER (Fenusa pusilla)

Leaf miner populations were noticeably higher this season over the central Upper Peninsula, though they have been high the past five years. Many more comments and calls were received than in the past.

Affected trees were more numerous with forest edge trees showing sharp increases in the amount of foliage damaged. Many of the severely attacked trees were totally brown by early July -- having the appearance of being scorched by fire. Though mortality was not observed, some growth impact had to result. The biggest concern with this insect is the aesthetic problems it causes.

DISEASES

DUTCH ELM DISEASE (Ceratocystis ulmi)

The rate of spread and the severity of the disease continues to increase drastically throughout the region. The disease front extends from Marquette to Ironwood with everything south and east of the line in the diseased area.

In this area Dutch Elm Disease is moving through the forest with devastating impact. This portion of the Upper Peninsula looks like the Lower Peninsula did five to ten years ago. Dead trees in various stages of decay are everywhere and wilting of newly infected elms is all to common a sight.

Most elm occurring in any quantity on state forest land is being liquidated by commercial timber harvest. In some stands this has come too late.

SCLERODERRIS CANKER (Scleroderris lagerbergii)

Incidence of this disease remained about the same as last year. Damage was more severe in low areas and frost pockets.

ASPEN SHOOT BLIGHT (Venturia sp.)

This disease was commonly reported throughout most of the aspen areas in the Upper Peninsula.